Claim 13. (Amended) A vector for transformation of plant cells comprising the antisense polynucleotide of claim 14 and regulatory sequences operatively linked to the antisense polynucleotide such that the polynucleotide is transcribed in a plant cell into which it is transformed.

Claim 14. (Amended) An antisense polynucleotide which hybridizes with RNA encoding senescence-induced eIF-5A, wherein said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO:11.

Claim 15. (Amended) The antisense polynucleotide according to claim 14 wherein the polynucleotide is from 6 to 100 nucleotides in length.

Claim 16. (Amended) The antisense polynucleotide according to claim 14 wherein the antisense polynucleotide hybridizes to a 5'-non-coding region of the RNA encoding senescence-induced eIF-5a.

Claim 17. (Amended) The antisense polynucleotide according to claim 14 wherein the antisense polynucleotide is hybridizes to a 3'-end of the RNA encoding senescence-induced eIF-5a.

Claim 24. (Amended) A bacterial cell transformed with the vector according to claim 13.

Claim 25. (Amended) A transgenic plant cell comprising the vector according to claim 13.

Claim 26. (Amended) A plant grown from the plant cell of claim 25.

Claim 27. (Amended) Progeny of the plant of claim 26, wherein the progeny comprise the vector of claim 13.

Claim 28. (Amended) A method for inhibiting the expression of endogenous senescence-induced eIF-5A polynucleotide in a plant, said method comprising

(1) integrating into a genome of at least one cell of the plant a vector comprising

(A) an antisense polynucleotide which hybridizes with RNA encoding the senescence-induced eIF-5A polynucleotide, wherein said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO: 11 and

(B) regulatory sequences operatively linked to the antisense polynucleotide such that the antisense polynucleotide is transcribed; and

(2) growing said plant, whereby said antisense polynucleotide is transcribed and binds to said RNA encoding the senescence-induced eIF-5A whereby expression of the senescence-induced eIF-5A polynucleotide is inhibited.

Claim 29. (Amended) The method according to claim 28 wherein the antisense polynucleotide hybridizes under high stringency conditions with a 5'-non-coding region of an RNA transcript encoding senescence-induced eIF-5A.

Claim 32. (Amended) The method according to claim 28 wherein said inhibition results in delayed senescence of the plant as compared to senescence of a plant not having integrated into at least one cell of the plant the antisense polynucleotide.

Claim 33. (Amended) The method according to claim 28 wherein said inhibition results in increased resistance of said plant to environmental stress-induced and/or pathogen-induced senescence as compared to resistance to environmental stress and/or pathogen-induced senescence of a plant not having integrated into at least one cell of the plant the antisense polynucleotide.

Claim 34. (Amended) The method according to claim 28 wherein said inhibition results in increased biomass of said plant as compared to a biomass of a plant not having integrated into at least one cell of the plant the antisense polynucleotide.

Claim 35. (Amended) The method according to claim 28 wherein said inhibition results in delayed fruit softening and delayed fruit spoilage of said plant

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as compared to fruit softening and fruit spoilage of a plant not having integrated into at least one cell of the plant the antisense polynucleotide.

Claim 36. The method according to claim 28 wherein said inhibition results in increased seed yield from said plant as compared to seed yield from a plant not having integrated into at least one cell of the plant the antisense polynucleotide.

Claim 37. The method according to claim 28 wherein the regulatory sequences comprise a constitutive promoter active in the plant.

Claim 38. The method according to claim 28 wherein the regulatory sequences comprise a tissue specific promoter active in the plant.

Claim 39. The method according to claim 28 wherein the regulatory sequences comprise a senescence-induced promoter active in the plant.

Claim 40. (Amended) The method according to claim 28 wherein said plant bears fruit, flowers, produces vegetables, is an agronomic crop plant[s and] or is a forest species plant.

Claim 41. (Amended) The method according to claim 28 wherein the plant is a tomato plant.

Claim 45. (Amended) A method of delaying age-related senescence and/or environmental stress-related senescence in a plant, said method comprising

(1) integrating into a genome of at least one cell of the plant a vector

a4 comprising

(A) an antisense polynucleotide which hybridizes with RNA encoding a senescence-induced eIF-5A polynucleotide, wherein said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO: 11 ;

(B) regulatory sequences operatively linked to the antisense polynucleotide such that the antisense polynucleotide is transcribed; and

(2) growing said plant, whereby said antisense polynucleotide is transcribed and binds to said RNA encoding senescence-induced eIF-5A, whereby expression of the senescence-induced eIF-5A polynucleotide is inhibited; and

(3) whereby age-related and/or environmental stress-related senescence in the plant is delayed.

Claim 48. (Amended) A plasmid comprising a replication system

a5 functional in a prokaryotic host and an antisense polynucleotide according to claim 14.

Claim 49. (Amended) A plasmid comprising a replication system

functional in *Agrobacterium* and an antisense polynucleotide according to claim 14.

Claim 52. (Amended) The plant of claim 26 wherein the plant is a tomato plant.

Claim 53. (Amended) The plant of claim 26 wherein the plant is a flowering plant.

Claim 56. (Amended) A method of reducing effects of aging on seed, said method comprising

(1) integrating into a genome of at least one cell of a plant a vector comprising

(A) an antisense polynucleotide which hybridizes with RNA encoding senescence-induced eIF-5A polynucleotide, wherein said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO:11 and

(B) regulatory sequences operatively linked to the antisense polynucleotide sequences; and

(2) growing said plant, whereby said antisense polynucleotide is transcribed and binds to said RNA encoding senescence-induced eIF-5A whereby expression of the senescence-induced eIF-5A polynucleotide is inhibited;

(3) allowing said plant to produce seed; and

(4) whereby the effects of aging on the seed is reduced.

Claim 67. (Amended) A method of increasing resistance to blossom end rot in a tomato plant, said method comprising

(1) integrating into a genome of at least one cell of the plant a vector comprising

(A) an antisense polynucleotide which hybridizes with RNA encoding senescence-induced eIF-5A polynucleotide, said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO: 11

(B) regulatory sequences operatively linked to the antisense polynucleotide such that the antisense polynucleotide is transcribed; and

(2) growing said plant, whereby said antisense polynucleotide is transcribed and binds to said RNA encoding the senescence-induced eIF-5A polynucleotide whereby expression of said senescence-induced eIF-5A polynucleotide is inhibited, and

(3) whereby the resistance to blossom end rot in the tomato plant is increased as compared to resistance to blossom end rot in a tomato plant not having said antisense polynucleotide integrated into the genome of at least one cell of the plant.

Please add the following new claims 71-73.

Claim 71. (new) The method according to claim 28 wherein the antisense

polynucleotide hybridizes under high stringency conditions with a 3'-coding region of an RNA transcript encoding senescence-induced eIF-5A.

Claim 72. (new) A method of increasing resistance to disease in a plant, said method comprising

(1) integrating into a genome of at least one cell of the plant a vector comprising

(A) an antisense polynucleotide which hybridizes with RNA encoding senescence-induced eIF-5A polynucleotide, said antisense polynucleotide hybridizes under high stringency conditions with SEQ ID NO: 11

(B) regulatory sequences operatively linked to the antisense polynucleotide such that the antisense polynucleotide is transcribed; and

(2) growing said plant, whereby said antisense polynucleotide is transcribed and binds to said RNA encoding the senescence-induced eIF-5A polynucleotide whereby expression of said senescence-induced eIF-5A polynucleotide is inhibited, and

(3) whereby the resistance to disease in the plant is increased as compared to the resistance to disease in a plant not having said antisense polynucleotide integrated into the genome of at least one cell of the plant.

Claim 73. (New) A method for inhibiting the expression of endogenous senescence-induced eIF-5A polynucleotide in a plant, said method comprising

(1) integrating into a genome of at least one cell of the plant a vector